

**Amendments to the Claims:**

This listing of claims will replace all prior versions and listings of claims in the application:

**Listing of Claims:**

Claims 1-43 (Canceled).

44. (Original) A method of preparing a composite membrane, said method comprising the steps of:

(a) providing a proton exchange membrane;  
(b) introducing a cationic monomer into one or more desired areas of the proton exchange membrane; and

(c) effecting the polymerization of the cationic monomer.

45. (Original) The method as claimed in claim 44 wherein proton exchange membrane is a perfluorosulfonic acid proton exchange membrane.

46. (Original) The method as claimed in claim 44 wherein said cationic monomer is a quaternary salt monomer.

47. (Original) The method as claimed in claim 46 wherein the quaternary salt monomer includes a cationic component and an anionic component, said cationic component being selected from the group consisting of acrylic, methacrylic and ethynyl esters of quaternary ammonium alkanes and acrylic, methacrylic and ethynyl esters of quaternary ammonium heterocycles.

48. (Original) The method as claimed in claim 44 wherein said one or more desired areas of the proton exchange membrane consist of the periphery of the proton exchange membrane.

49. (Original) The method as claimed in claim 44 wherein said one or more desired areas of the proton exchange membrane comprise the periphery of the proton exchange membrane and one or more interior regions defining a plurality of circumscribed segments.

50. (Previously presented) The method as claimed in claim 44 wherein said polymerization effecting step comprises heating the product of step (b).

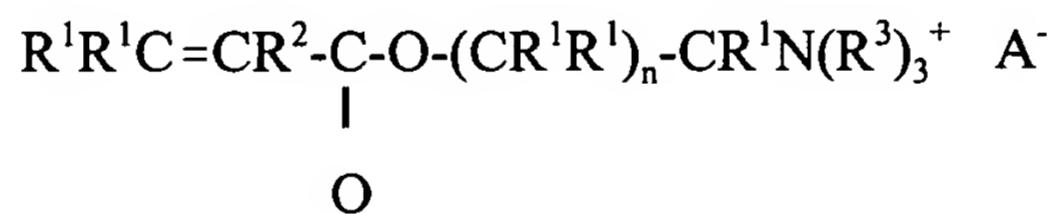
51. (Previously presented) The method as claimed in claim 44 wherein said polymerization effecting step comprises irradiating the product of step (b).

52. (Previously presented) The method as claimed in claim 44 wherein said polymerization effecting step comprises exposing the product of step (b) to a free-radical catalyst.

53. (Currently amended) ~~The A method as claimed in claim 47 of preparing a composite membrane, said method comprising the steps of:~~

(a) providing a proton exchange membrane;

(b) introducing a cationic monomer into one or more desired areas of the proton exchange membrane, wherein the cationic monomer is a quaternary salt monomer that includes a cationic component and an anionic component, said cationic component being selected from the group consisting of acrylic, methacrylic and ethynyl esters of quaternary ammonium alkanes and acrylic, methacrylic and ethynyl esters of quaternary ammonium heterocycles, and wherein the quaternary salt monomer is of the formula



wherein  $R^1$  is selected from the group consisting of F and H,  $R^2$  is selected from the group consisting of H, a methyl group and a halide,  $R^3$  is selected from the group consisting of a methyl group and an ethyl group,  $n$  is 0-3, and  $A^-$  is an anion with which the cation exhibits solubility in water; and

(c) effecting the polymerization of the cationic monomer.

54. (Previously presented) The method as claimed in claim 53 wherein  $A^-$  is selected from the group consisting of sulfate and chloride.

55. (Currently amended) ~~The A method as claimed in claim 47 of preparing a composite membrane, said method comprising the steps of:~~

(a) providing a proton exchange membrane;

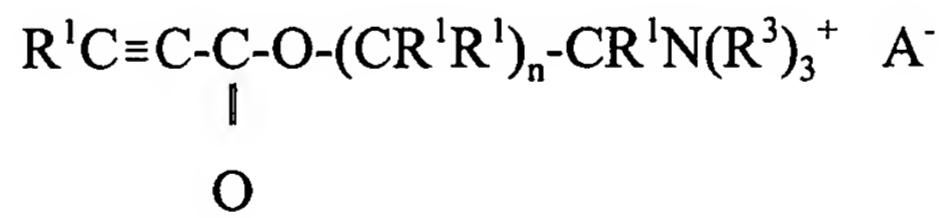
(b) introducing a cationic monomer into one or more desired areas of the proton exchange membrane, wherein the cationic monomer is a quaternary salt monomer that includes a cationic component and an anionic component, wherein said cationic component is selected from the group consisting of trimethyl ammonium ethyl acrylate and dimethylammonium ethylmethacrylate; and

(c) effecting the polymerization of the cationic monomer.

56. (Currently amended) ~~The A method as claimed in claim 47 of preparing a composite membrane, said method comprising the steps of:~~

(a) providing a proton exchange membrane;

(b) introducing a cationic monomer into one or more desired areas of the proton exchange membrane, wherein the cationic monomer is a quaternary salt monomer that includes a cationic component and an anionic component, said cationic component being selected from the group consisting of acrylic, methacrylic and ethynyl esters of quaternary ammonium alkanes and acrylic, methacrylic and ethynyl esters of quaternary ammonium heterocycles, and wherein the quaternary salt monomer is of the formula



wherein  $R^1$  is selected from the group consisting of F and H,  $R^2$  is selected from the group consisting of H, a methyl group and a halide,  $R^3$  is selected from the group consisting of a methyl group and an ethyl group,  $n$  is 0-3, and  $A^-$  is an anion with which the cation exhibits solubility in water; and

(c) effecting the polymerization of the cationic monomer.

57. (Previously presented) The method as claimed in claim 56 wherein A<sup>-</sup> is selected from the group consisting of sulfate and chloride.

58. (Previously presented) The method as claimed in claim 47 wherein said quaternary ammonium heterocycles are selected from the group consisting of pyridinium, pyridazinium, pyrimidinium, pyrazinium, imidazolium, pyrazolium, thiazolium, oxazolium and triazolium.